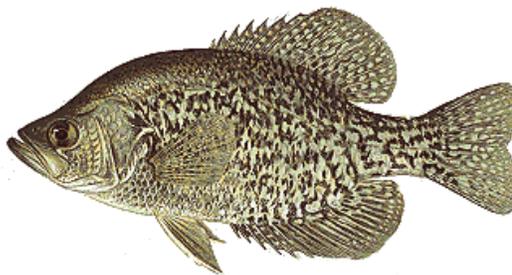


Rivers and Streams

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Winter Habitat of Bluegill, Black and White Crappie

Good habitat is necessary to sustain healthy populations of any fish species. To assess the winter habitat needs of bluegill, black crappie and white crappie we couldn't think of a better way to assess their habitat than to let the fish tell us by using radio telemetry. We use tiny transmitters that weigh 3.5 gram (about 0.12 ounce) and last about 6 months. Transmitters are attached to the dorsal muscle, the dorsal spines, or surgically implanted into the body cavity. Transmitters attached to the dorsal spines have provided the best results. We have followed over 320 fish in Pools 11, 12, 13 and 14 of the Upper Mississippi River. Telemetry results show that no matter where in a backwater complex, flowing side channel, or main channel border that fish were tagged, nearly all fish moved to several small protected backwater lakes to spend winter. There was no current in these backwater lakes and water temperature was around 35-37 °F (main channel water temperatures are always near 32 °F). Causes of mortality for radio-tagged fish include oxygen depletion and angler harvest. Mild winters have resulted in lower natural mortality rates; however, more fish were harvested by ice anglers.

Since 2005, fish were tagged near or in two separate backwater lakes to help evaluate an Environmental Management Program Habitat Rehabilitation and Enhancement Project. Winter 2005-06 came on strong with cold temperatures and good ice; then, with a subsequent warm up in January, the ice went out. Fish moved to areas with conditions (no flow, higher water temperatures, good dissolved oxygen) similar to the previous two years until the ice went out in January, and fish dispersed out of these areas similar to what fish would normally do in March. Much of the project area continued to have flow which restricted fish use of the area during the winter. Throughout summer of 2006, the two notches that provide oxygenated water to the project were reduced in depth and width to decrease the volume of flow through the project area. Fish that were tracked during the 2006-2007 winter utilized more of the project area because of the reduced flows. Fish tracked during 2007-2008 and 2008-2009 utilized even more of the study area including the uppermost dredge cut and the side cuts. This study will be finalized this year. This information is used to help plan, direct and evaluate current and future rehabilitation of backwater complexes through the Corps of Engineers' Environmental Management Program and the Navigation and Ecosystem Restoration Program.

